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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Andreas Ritter

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EXAMINER

JENNINGS, STEPHANIE M

ART UNIT

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DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,303	Applicant(s) RITTER ET AL.	
	Examiner STEPHANIE JENNINGS	Art Unit 4135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>17 June 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the length is greater than 150 words. Correction is required. See MPEP § 608.01(b).

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: the specification appears to be a literal translation into English.

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.

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(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

Claim 8 is objected to because of the following informalities: a period is used after the first limitation in claim 8, "...strip edge-oriented shifting of the work rolls/intermediate rolls (10, 11)." Appropriate correction is required.

Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is unclear whether claim 9 limits the method or apparatus claims. The preamble states "a method in accordance with claim 8", but claim 8 is an apparatus claim for the tandem cold rolling mill.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v.*

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Eagle Mfg. Co., 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 7 directed to the same invention as that of claim 7 of commonly assigned US Patent No. 7,367,209 B2. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 6 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 6 of U.S. Patent No. 7,367,209 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the application claims identical equations for the one-sided setback. The only difference between claim 6 of the application and claim 6 of U.S. Patent No. 7,367,209 is that the referenced dimensions in U.S. Patent No. 7,367,209 B2 are obtained from roll flattening. Claim 6 of the application is claiming material already claimed in claim 6 of U.S. Patent No. 7,367,209 B2.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 1-3, 5-6, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of the backslash in the phrases "work roll/intermediate roll" in claims 1-3, 5-6, and 8 and "four-high/six-high rolling mills" is unclear in whether is it meant to interpreted as "and" or "or." Additionally, claim 1 mentions the "use of

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CVC/CVC^{plus} technology with CVC roll contours of higher order" without explicitly stating an ordinal degree.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 uses the phrases "and possibly PC technology" and "suitable plant conception" without definitively claiming whether PC technology is required or what entails "suitable plant conception" for the limitations in claim 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Haberkamm, et. al., US Publication No. 2003/0164020 A1.

Haberkamm anticipates:

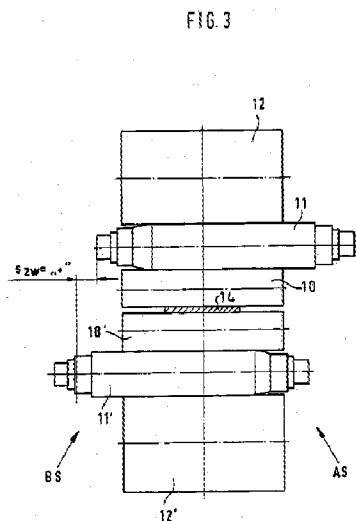
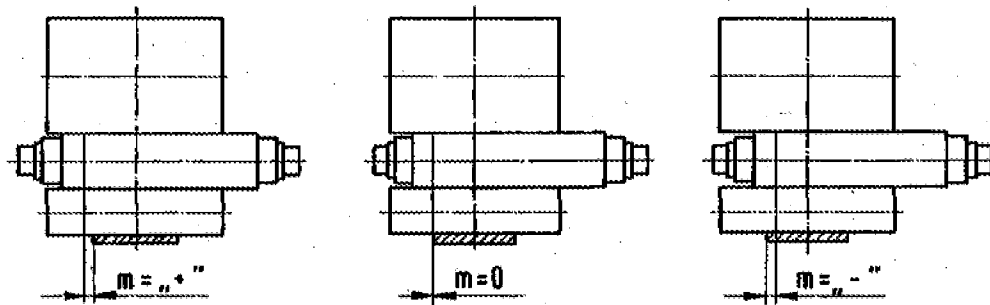
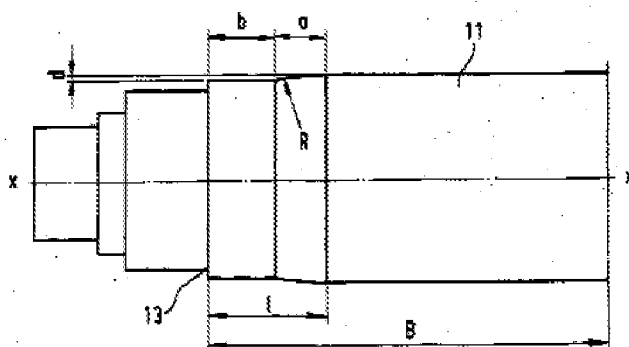


FIG. 4



Limitations from claim 5, tandem cold rolling mill, comprising four-high/six-high rolling mills, each with a pair of work rolls (10, 10', figure 3) and a pair of backup rolls (12, 12', figure 3) in the case of four-high rolling stands and, in addition, a pair of intermediate rolls (11, 11', figure 3) in the case of six-high rolling stands, wherein at least the work rolls (10, 10', figure 3) and the intermediate rolls (11, 11', figure 3) interact with axial shifting devices (figure 4), wherein the work rolls/intermediate rolls (10, 11, figure 3) of the rolling stands each have a symmetrical barrel (10, 11, figure 3) which is lengthened by the amount of the shifting stroke, has a cylindrical or cambered cross section, and is symmetrically positioned in the center of the stand (Y-Y) for the neutral shift position ($S_{ZW} = "+"$, figure 3), page 2, ¶ 32-39.

FIG. 2



Limitations from claim 6, tandem cold rolling mill in accordance with claim 5 in figure 2 (above), wherein the barrel of the work rolls/intermediate rolls (10, 11) is furnished with a one-

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sided setback (d), whose length (B) is divided into two adjacent regions (a) and (b), such that the first region (a), beginning with the radius (R), obeys the equation of the circle $(B-X)^2 + y^2 = R^2$, and the region (b) runs linearly, from which the following setback (d) or the following diameter reduction (2d) is obtained for these regions:

Region a:

$$=(R^2 - (R-d)^2)^{1/2} \rightarrow d=d(x)=R - (R^2 - (B-x)^2)^{1/2}$$

Region b:

$$=B-a \rightarrow d=d(x)=\text{constant. (page 1, ¶ 17)}$$

Limitations from claim 7, Tandem cold rolling mill in accordance with claim 5, wherein the transition of the setback (d) between the regions (a) and (b) is made with a sequential setback of the dimension (d) resulting from roll flattening according to a predetermined table (page 2, ¶ 20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 8-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Haberkamm, et. al, US Publication No. 2003/0164020 A1, Hartung, et. al., WIPO Publication No. WO0211916, and Tateno, et al., US Patent No. 5,875,663.

The applied reference has common inventors, Andreas Ritter and Rudiger Holz, with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Haberkamm teaches:

FIG. 3

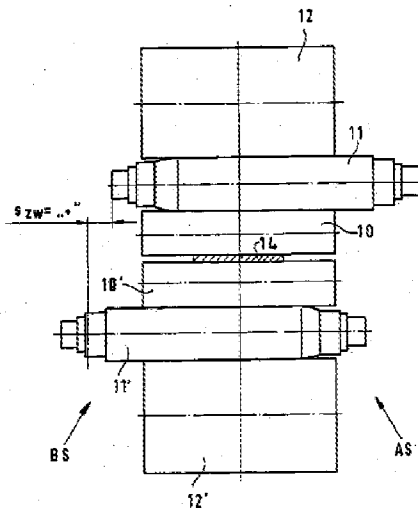
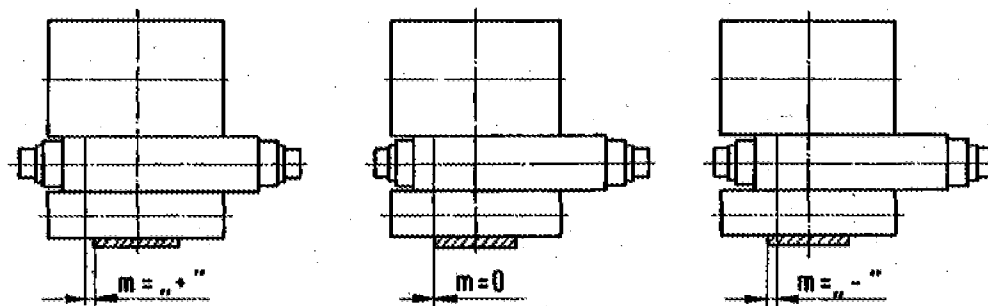


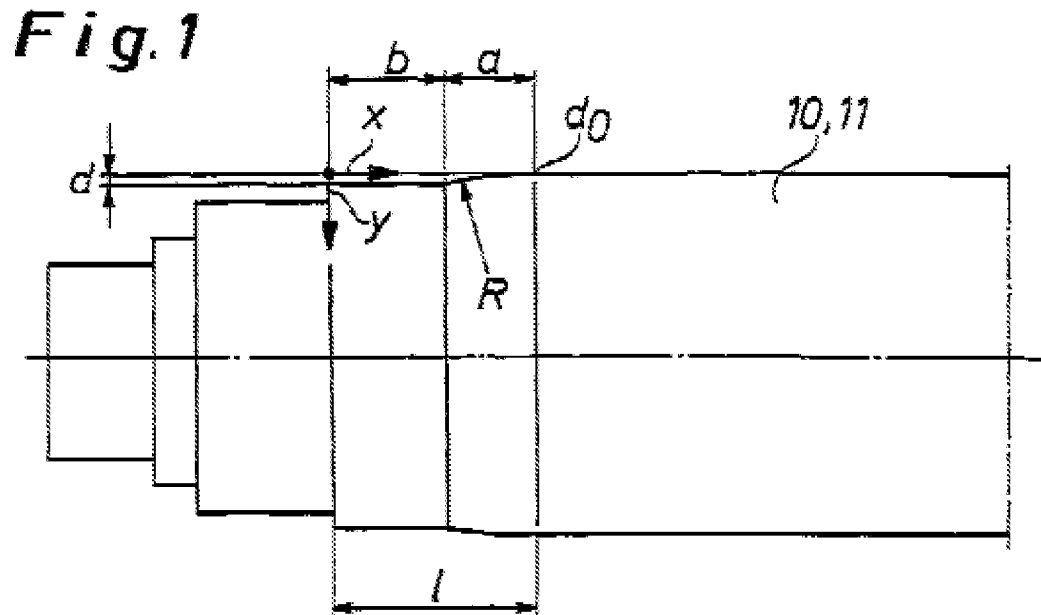
FIG. 4



Limitations from claim 1, Method for the operation of the rolling stands of a tandem cold rolling mill, comprising a pair of work rolls (10, 10', figure 3) and a pair of backup rolls (12, 12', figure 3) in the case of four-high rolling stands and, in addition, a pair of intermediate rolls (11, 11', figure 3) in the case of six-high rolling stands, wherein at least the work rolls (10, 10', figure 3) and the intermediate rolls (11, 11', figure 3) interact with axial shifting devices (figure 4, wherein m="+" or m="-" indicates shifting), comprising the combined use of the following technologies within the multiple-stand tandem cold rolling mill: use of CVC/CVC^{plus} technology

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wherein each work roll/intermediate roll (10, 10', 11, 11', figure 3) has a barrel lengthened by the amount of the shifting stroke, wherein each work roll/intermediate roll (10, 10', 11, 11', figure 3) has a barrel (10, 11) which is lengthened by the amount of the shifting stroke and which has a cylindrical or cambered cross section, and the work rolls/intermediate rolls (10, 10', 11, 11', figure 3) are each symmetrically shifted from the neutral shift position ($S_{ZW} = "+"$, figure 3) by the same amount symmetrically to the center of the stand (Y-Y) in the direction of their axes of rotation (X-X) (page 1, ¶ 1, 3-7).



Limitations from claim 2, Method in accordance with claim 1, wherein, to use strip edge-oriented shifting, the work rolls/intermediate rolls (10, 11) are provided with a one-sided setback (d), such that when each work roll/intermediate roll (10, 11) is shifted, the beginning (d_0) of the setback (d) is positioned outside the strip edge, at the strip edge, or inside the strip edge, i.e., within the width of the strip (14, figure 3).

Limitations from claim 3, Method in accordance with claim 1, wherein the shift position of the work roll/intermediate roll (10, 11) in different strip width ranges is predetermined by

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piecewise-linear step functions (page 1, ¶14 and 17) which are based on different positions of the beginning (d_0) of the setback (d) relative to the edge of the strip (14, figure 3).

Limitations from claim 4, Method in accordance with claim 1, wherein optimum utilization of the combination of technologies within the multiple-stand tandem cold rolling mill is realized by optimized shifting strategies as a function of the strip width (page 1, ¶ 12).

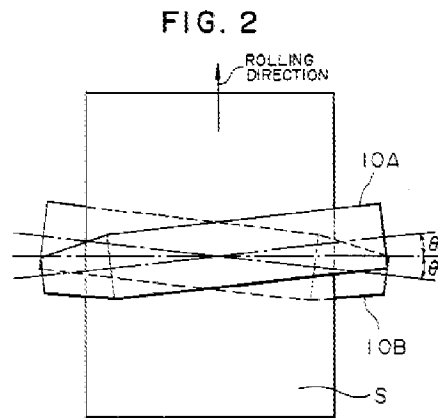
Limitations from claim 8, Tandem cold rolling mill in accordance with claim 5, wherein suitable choice of the rolling stands allows a combination of the different technologies of strip edge-oriented shifting of the work rolls/intermediate rolls (10, 11). CVC technology (page 1, ¶ 3-7), and swiveling of the work rolls (10), PC (pair cross) technology within the multiple-stand tandem cold rolling mill.

Limitations from claim 9, Method in accordance with claim 8, wherein the CVC/CVC^{plus} technology (page 1, ¶ 3-7), the technology of strip edge-oriented shifting (page 1, ¶ 12), and possibly PC technology are realized with only one geometrically identical set of rolls (paragraph 1) by means of suitable plant conception, as examiner understands this, in the design of the mill.

Haberkamm teaches a method of and apparatus for the operation of the rolling stands of a tandem cold rolling mill using CVC/CVC^{plus} technology. However, Haberkamm does not specify the use of pair-cross (PC) technology, but Tateno does.

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Tateno teaches:



Limitations from claim 1, use of pair-cross (PC) technology (10A, 10B and column 4, lines 19-33) wherein each work roll/intermediate roll can be swiveled parallel to the plane of the strip.

Limitations from claim 8, Tandem cold rolling mill in accordance with claim 5, wherein suitable choice of the rolling stands allows a combination of the different technologies of strip edge-oriented shifting of the work rolls/intermediate rolls: CVC technology, and swiveling of the work rolls, PC (pair cross) technology (10A, 10B in figure 2 above and column 4, lines 19-33) within the multiple-stand tandem cold rolling mill.

Limitations from claim 9, Method in accordance with claim 8, wherein the CVC/CVC^{plus} technology, the technology of strip edge-oriented shifting, and possibly PC technology (10A, 10B and column 4, lines 19-33) are realized with only one geometrically identical set of rolls by means of suitable plant conception, as examiner understands this, in the design of the mill.

It would have been obvious to one skilled in the art at the time of invention to one of ordinary skill in the art to combine Tateno's invention with Haberkamm's because the use of pair-cross technology allows for adjustable orientation of the rollers, which allows for strip edge drop correction. This would allow for minimal edge defects in a produced workpiece.

Haberkamm teaches a method of and apparatus for the operation of the rolling stands of a tandem cold rolling mill using CVC/CVC^{plus} technology. However, neither Tateno nor Ritter teaches higher-order CVC roll contours, but Hartung does.

Hartung teaches limitations from claim 1, the combined use of the following technologies within the multiple-stand tandem cold rolling mill: use of CVC/CVC^{plus} technology with CVC roll contours of higher order. Hartung discloses a generalized higher-order polynomial equation and a third-degree polynomial equation for the CVC roll contour in the second paragraph of translated WIPO Publication No. WO0211916.

It would have been obvious to one skilled in the art at the time of invention to combine Haberkamm's and Hartung's inventions in order ensure optimal performance of a tandem cold-rolling mill because the use of a higher-order CVC roll contour equation allows for a reduction of forces on roller bearings.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE JENNINGS whose telephone number is (571)270-7392. The examiner can normally be reached on M-F, 7:30 am-5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William M. Brewster can be reached on (571)272-1854. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J./

Examiner, Art Unit 4135

September 29, 2008

/William M. Brewster/

Supervisory Patent Examiner, Art Unit 4135